

Minnesota Pollution Control Agency

September 16, 1980

G. Robert Johnson
Popham, Haik, Schnobrich, Kaufman and Doty, Ltd.
4344 IDS Center
80 South Eighth Street
Minneapolis, Minnesota 55402

Dear Mr. Johnson:

Enclosed please find several items as you requested at our September 11, 1980, meeting at the Minnesota Pollution Control Agency (MPCA) office in Roseville.

The "Draft List of Pollutants of Concern - Wood Treating Plants" is a compilation of pollutants reported in wastewater or sludges associated with wood treating plants. Several of the sources report pollutants from unnamed plants. Other sources are reports of analyses conducted on samples from Minnesota plants by the Serco Laboratory or the Minnesota Department of Health Laboratory. The sources used are:

1. Proposed Development Document for Effluent Limitations, Guidelines, and Standards for the Timber Products Processing Point Source Category, U.S. EPA, Effluents Guideline Division, October, 1979
2. Wood Treating Industry Multimedia Emission Inventory, June 1980 Draft, Acurex Corporation, prepared for the US EPA Cincinnati Research Laboratory
3. Phenolics in Aquatic Ecosystems, Buikema, A. L., McGinnis, M. J. and Cairns, J., Marine Environment Research (2) 1979, 87-189
4. Serco Laboratory analyses of the St. Regis pond water
5. Minnesota Department of Health Laboratory analyses of St. Regis pond and ditch waters
6. Minnesota Department of Health Laboratory analyses of Burlington Northern pond water
7. Serco Laboratory analyses of Joslyn well water

Phone: _____

1935 West County Road B2, Roseville, Minnesota 55113
Regional Offices - Duluth/Brainerd/Detroit Lakes/Marshall/Rochester
Equal Opportunity Employer



8. Twin City Testing Laboratory analyses of Onan - Medtronics samples
9. Priority Pollutant Consent Decree

As was discussed at the September 11 meeting, the operational history of each facility will determine which of the listed pollutants are of concern at that particular facility.

The list of pollutants of concern represent our present understanding of the toxic materials present in wastes from wood treating processes. Additions or deletions of pollutants may of course be necessary, if wastewater samplings in Minnesota or reports in the research literature reveal presence or absence of other toxic materials. We look forward to receiving comment from your clients on the list developed by the MPCA staff; members of Wood Treaters Association may also know of other important materials which deserve investigation.

Also enclosed please find a "Summary of Available Standards/Criteria, Wood Treatment Sites". The sources for this listing are:

FDWS Federal Primary and Secondary Drinking Water Standards
MDHDWS Minnesota Department of Health Drinking Water Standards
MPCA Minnesota Rules WPC 14 and 22
FWQC Federal Water Quality Criteria published March 15, July 25,
and October 15, 1979
NYGWS New York Ground Water Standards

The "Summary of Standards and Criteria" represents a compilation of the scientifically derived levels of concern available to MPCA staff at this time. As more information and research becomes available, the levels may change. We solicit your clients' comments and encourage them to furnish us with any similarly derived appropriate standards or criteria. As we have discussed, the levels presented will be used by the MPCA staff and Minnesota Department of Health staff to evaluate data generated at the sites.

The Standards and Criteria discussed thus far deal with water quality. For sludges and soil, we will apply the State and Federal Hazardous Waste Rules when possible. Our approach for evaluation of soils will involve subjecting soils to a solvent extraction procedure to estimate total contamination levels and to leaching tests to investigate apparent contaminant mobility. These procedures each contribute valuable information, neither procedure alone can suffice.

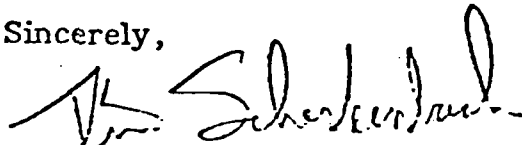
Bill Scruton, of the Minnesota Department of Health Laboratory has suggested that all analysts likely to become involved in site investigations coordinate their efforts before analytical work proceeds. To this end John Davenport of the MPCA is arranging a meeting between Bill Scruton, Daryle Thingvold of Serco, Bill Wellbus of Twin City Testing, and MPCA

Mr. Johnson
Page Three

staff. If you are aware of other analysts or laboratories likely to become involved in site investigation efforts, please so inform Stephen Lee of my staff.

We look forward to your prompt response to the enclosed materials. To speed matters along we are sending copies of this letter to each of the firms represented at our September 11, 1980 meeting. As you requested, I am also enclosing a copy of the New York State Ground Water Standards.

Sincerely,



Tim Scherkenbach, Chief
Enforcement Section
Division of Water Quality

TKS/dc

Enclosures

cc: Tom Doten, Bell Pole
Bill Westerdahl, St. Regis
John Shamp, PCI
W. Schoenholz, Joslyn Manufacturing
Howard Olson, Sonford Products
Bob Baglo, G. M. Stewart
Robert Norgard, MacGillis and Gibbs
Daryle Thingvold, Serco Laboratories
Mark Stehly, Burlington Northern
Ralph Nelsen, Burlington Northern

List of Pollutants of Concern-Wood Treatment Plants

- | | |
|----------------------------|------------------------------------|
| 1. Flouranthene | 18. 2,4, dimethylphenol |
| 2. Pyrene | 19. 2 chlorophenol |
| 3. Phenanthrene | 20. 2,4,6 trichlorophenol |
| 4. Anthracene | 21. pentachlorophenol |
| 5. Benzo (a) anthracene | 22. dinitrophenol |
| 6. Naphthalene | 23. tetrachlorophenol isomers |
| 7. Acenaphthene | 24. 3,5 xyleneol |
| 8. Acenaphthylene | 25. o-cresol |
| 9. Flourene | 26. m-cresol |
| 10. Chrysene | 27. 2,4, dichlorophenol |
| 11. 1, 2, Benzanthracene | 28. Dibenzo(ah)anthracene |
| 12. Benzo (a) pyrene | 29. 2,4 dinitrophenol |
| 13. Benzo (e) pyrene | 30. 2 nitrophenol |
| 14. Benzo (k) Flouranthene | 31. polychlorinated dibenzo dioxin |
| 15. Ideno (123 cd) pyrene | 32. copper |
| 16. Benzo (ghi) perylene | 33. Arsenic |
| 17. Benzo (b) Flouranthene | 34. Chromium |
| | 35. Oil and Grease |
| | 36. Phenols |

Development Document 1,2,3,4,5,6,7,8,9,10,12,14,15,16,17,18,19,20,21,33,34,35,36,37

Multimedia Inventory 2,3,4,5,7,8,12,18,19,20,21,32,33,34,35,36

St. Regis Pond-Serco 1,2,3,4,5,8,9,10,12,16,21,36

St. Regis Pond, ditch-MDH 1,3,9,10,11,12,13,17

BN Pond-MDH 1,3,9,11,13

Joslyn-Serco 10,12,14,16,21,32,33,34,35,36

Phenolics in Aquatic Ecosystems 21,23,24,25,26

Onan-Medtronic Study 1,2,3,4,6,7,8,9,10,18,19,20,21,25,26,27,28,29,30,36

Priority Pollutants 1,2,3,4,5,6,7,8,9,10,11,12,14,15,16,17,18,19,20,21,27,28,29,30,31,32,33,34

WOOD TREATMENT SITE
STANDARDS/CRITERIA
SUMMARY

<u>Parameter</u>	<u>Human Health</u>	<u>Aquatic Life</u>	<u>Reference</u>
Arsenic	For maximum protection of human health from the carcinogenic effects of exposure to arsenic through ingestion of water and contaminated aquatic organisms, the ambient water concentration is zero. (FWQC)		
	.05 mg/l (ppm)		FDWS, MDH
	.01 mg/l (ppm)		MPCA, Class 1A,B,C
	.05 mg/l (ppm)		MPCA, Class 1D
	.025 mg/l (ppm)		NYGWS
	.02 ng/l (ppt) @ 10^{-5}	.057 mg/l av., .130 mg/l max.	FWQC
Chromium (total)	.05 mg/l (ppm)		FDWS, MDH
		.02 mg/l (ppm)	MPCA, Class 2A
Chromium (+3)	.05 mg/l (ppm)	.05 mg/l (ppm)	MPCA, Class 2B, C
			FWQC
Chromium (+6)	For maximum protection of human health from the carcinogenic effects of exposure to hexavalent chromium through ingestion of water and contaminated aquatic organisms, the ambient water concentration is zero. (FWQC)		
	.05 mg/l (ppm)		MPCA, NYGWS
	8 ng/l (ppt) @ 10^{-5}		FWQC
Copper	1 mg/l (ppm)	.01 mg/l (ppm)	FDWS, NYGWS, MPCA
Phenols	1 µg/l (ppb)		MPCA, NYGWS
		10 µg/l (ppb)	MPCA, Class 2A, B
		100 µg/l (ppb)	MPCA, Class 2C
Pentachlorophenol	21 µg/l (ppb)		NYGWS
	140 µg/l (ppb)	6.2 µg/l av., 14 µg/l max.	FWQC

<u>Parameter</u>	<u>Human Health</u>	<u>Aquatic Life</u>	<u>Reference</u>
Carcinogenic PAH	For maximum protection of human health from the carcinogenic effects of exposure to polynuclear aromatic hydrocarbons (PAH) through ingestion of water and contaminated aquatic organisms, the ambient water concentration is zero. (FWQC)		
	9.7 ng/l (ppt)		FWQC
	total @ 10 ⁻⁵		
Benzo(a)pyrene	not detectable		NYGWS
TCDD (tetra-dioxin)	4.5 x 10 ⁻⁷ µg/l (ppb)		FWQC
	3.5 x 10 ⁻⁵ µg/l (ppb)		NYGWS
Flouranthene	200 µg/l (ppb)	250 µg/l av., 560 µg/l max.	FWQC
2,4,6 Trichlorophenol	100 µg/l (ppb)	52 µg/l av., 150 µg/l max.	FWQC
Naphthalene	143 µg/l (ppb)		FWQC
2 nitrophenol		2700 µg/l av., 6200 µg/l max.	FWQC
2,4 dinitrophenol	68.6 µg/l (ppb)	79 µg/l av., 180 µg/l max.	FWQC
2 chlorophenol	.3 µg/l (ppb)	60 µg/l av., 180 µg/l max.	FWQC
2,4 dichlorophenol	.5 µg/l (ppb)	.4 µg/l av., 110 µg/l max.	FWQC
2,4 dimethylphenol		38 µg/l av., 86 µg/l max.	FWQC